## Excel Tutorial, Point Pleasant Social Service Program

This tutorial is based on the case study Point Pleasant Social Service Program from the Potts text book page 162-163.

The Social Service Committee at the school battles to tally up and calculate the amount of money that each form group raises for their chosen charity. Mr Greene is in charge of organising and running the program. After a fundraising event, each form group counts their money and they hand it in to the office. They then collect a receipt which the pass to Mr Greene. He keeps these receipts in a shoe box in his office and at the end of each term he processes the receipts that he has gathered by making small piles of paper for each home group. He then calculates by hand who has raised the larges amount of money and assigns social service certificates to form groups, basked on how well they have worked. These are then presented at the last school assembly for the years. Gold certificates are given out to each group that manages to raise over $1000, Silver Certificates for groups that raise over $500 and Bronze certificates for groups that rise over $50.

Last year there was an embarrassing incident when Mr Greene calculated the wrong totals. Consequently the wrong form was given the wrong certificate.

Structure Chart: A graphical representation of how this spreadsheet solution will look:

Welcome

Certificate\_template

Fundraising

Home room totals

Home room details

It has been slightly adapted. In the design step on page 166 two separate sheets for Teacher and Homeroom are proposed. In this tutorial this is combined into one sheet Homeroom\_Details. All sections from the list of required software skills for spreadsheets are covered in this tutorial.

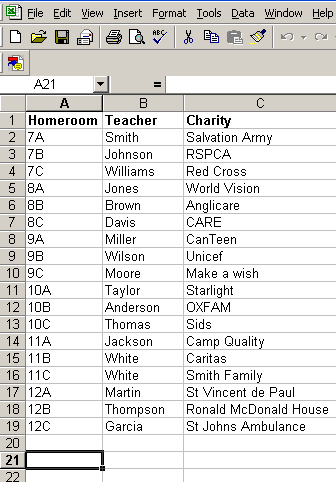
Open a new Excel workbook

# RENAMING SHEETS

1. Rename and create 5 worksheets as above. (Use the underscore to separate words, eg, home\_room\_details

1 Homeroom\_Details sheet

1. Fill in the following data in the Homeroom\_Details sheet



2 **Fundraising sheet**

Assume a maximum of 30 fundraising events, (this can be adjusted if more events are expected) individual fundraising events.

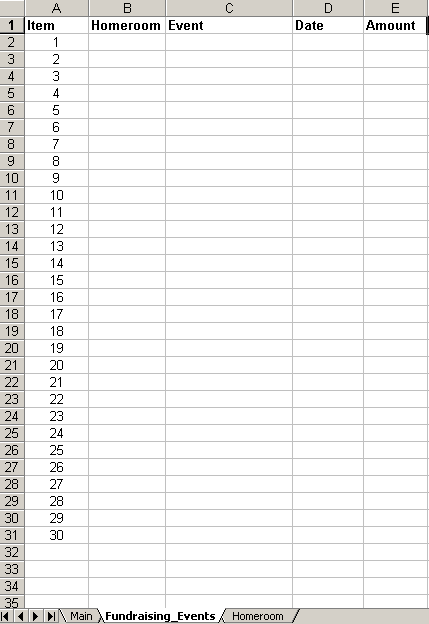
These are only the labels as this data will be entered later.

Eventually this sheet will be filled in by a) selecting a Homeroom from a drop down list (Data-Validation), b) entering the fundraising Event, c) the Date the event took place and d) the Amount collected.

Labels:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Homeroom** | **Event** | **Date** | **Amount** |

Enter 30 items from 1 to 40, starting in cell A2.

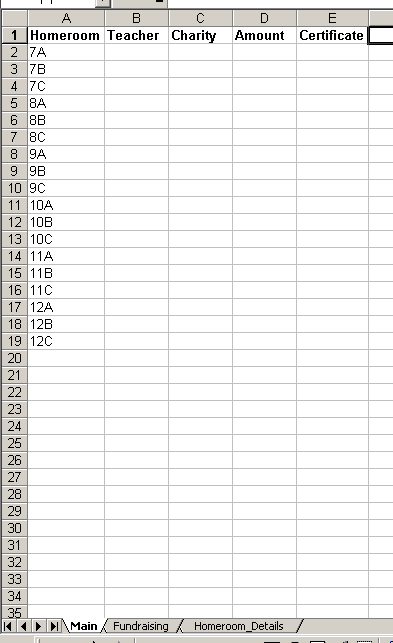


**3 Homeroom\_totals sheet**

Fill in the following data in the homeroom\_totals sheet. The Homerooms entered must match the list, which will eventually be used for the Fundraising sheet Homeroom Data-Validation List (see **data validation** later). There will be formulas entered for Teacher, Charity, Amount and Certificate.

Enter the homerooms from 7A to 12C.

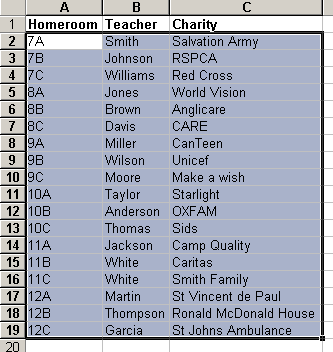
Format this sheet as per the layout diagram on page 166.



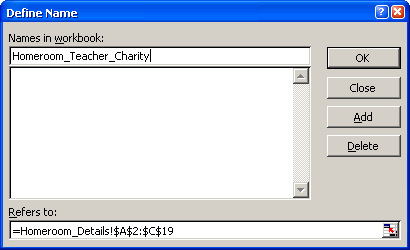
4 NAMING A DATA RANGE

Name ranging is used in order to make the spreadsheet easier to understand and follow.

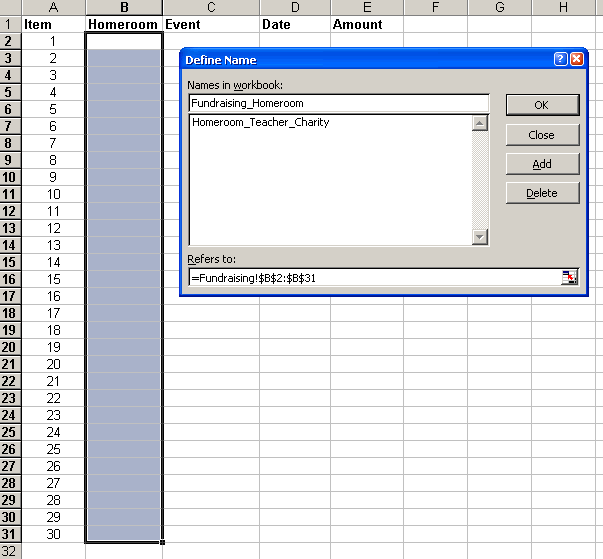
1. Highlight the Homeroom data as shown below on the Homeroom\_Details sheet.



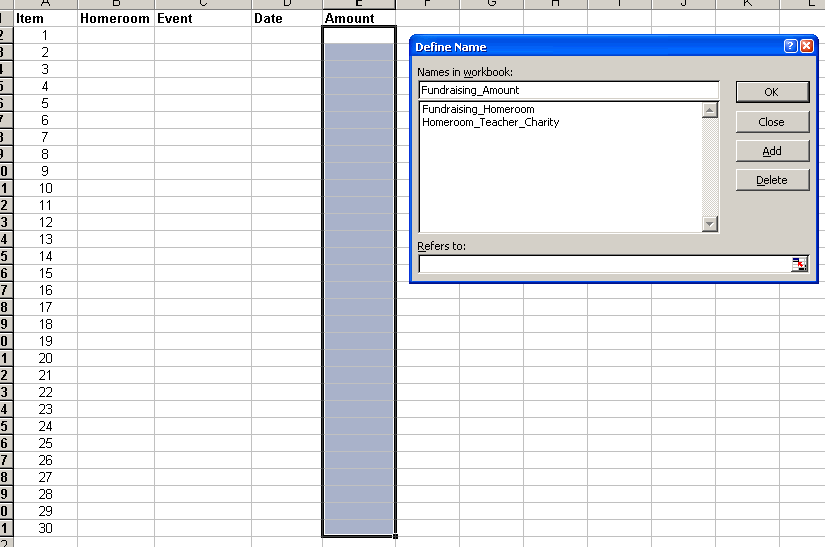
1. Click Insert 🡪 Name🡪 Define… and name the data range Homeroom\_Teacher\_Charity. Click OK.



1. Highlight B2 to B31 on the Fundraising sheet.
2. Click Insert 🡪 Name 🡪 Define and name the data range Fundraising\_Homeroom. Click OK.



1. Highlight E2 to E31 on the Fundraising sheet.
2. Click Insert 🡪 Name 🡪 Define and name the data range Fundraising\_Amount. Click OK.



The ranges of data named above will be used as part of VLOOKUP formulas on the Homeroom\_totals sheet.

5 USING VLOOKUP TO LOOK UP DATA ON ANOTHER SHEET

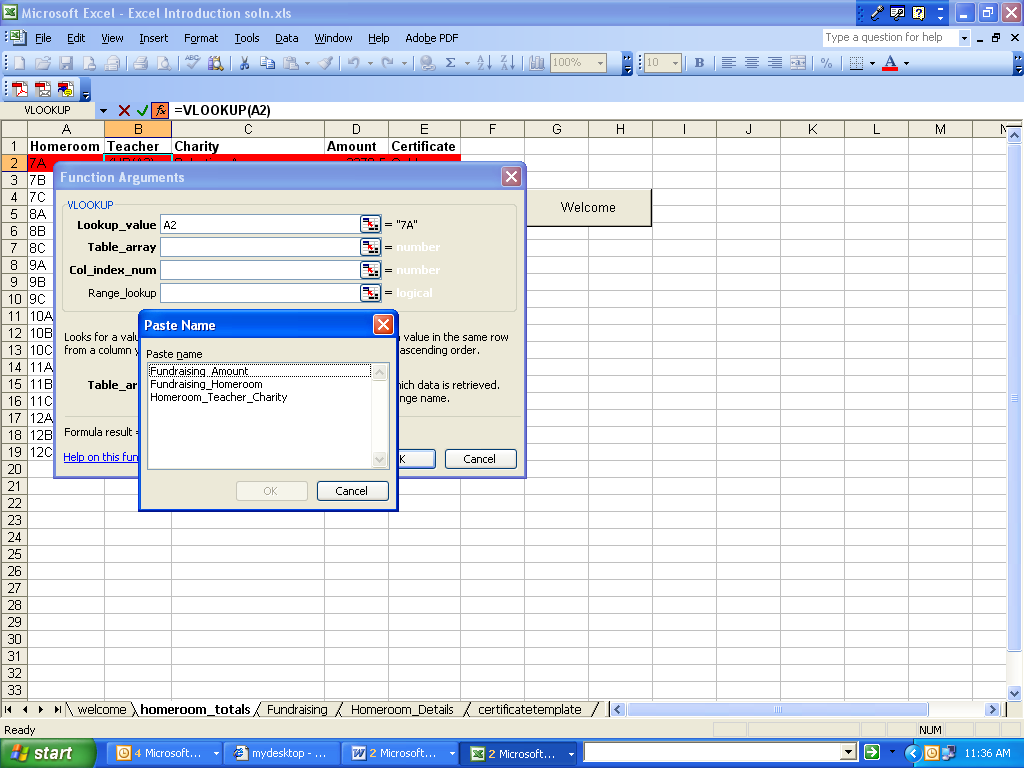
1. Click B2 in the homeroom\_totals sheet and the formula required is:

*=VLOOKUP(A2,Homeroom\_Teacher\_Charity,2,0)*

To have the name range appear in the table array:

Click in the formula and:

**Insert, Name**, and **Paste** and select the appropriate named reference as below:



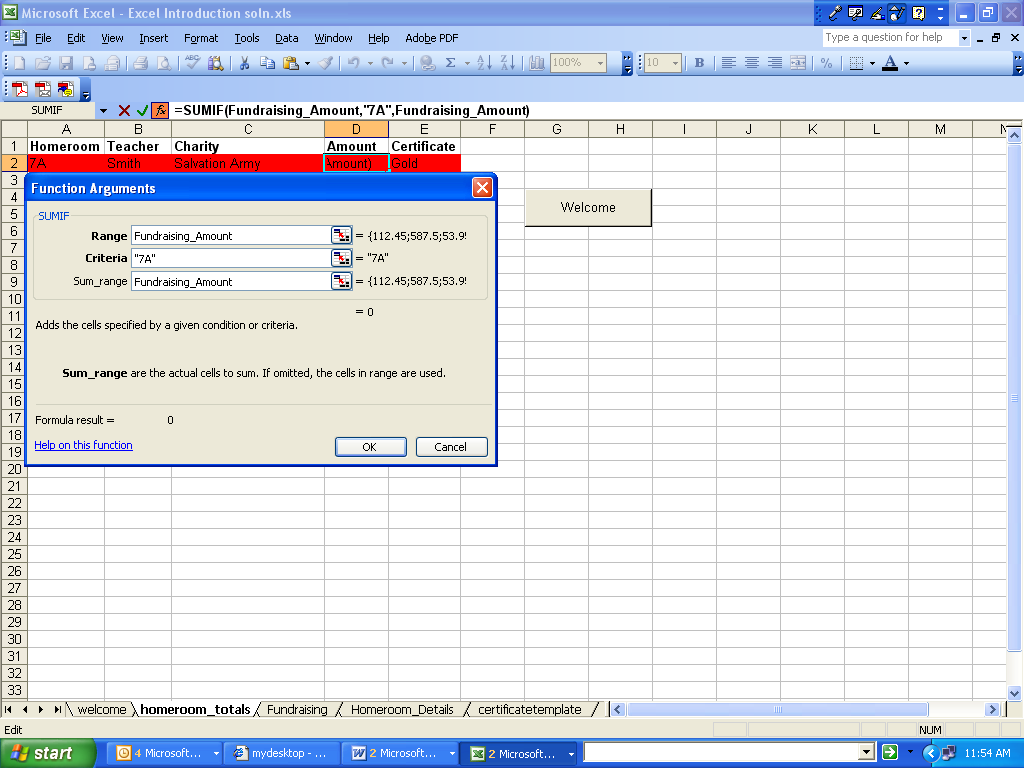
The vlookup formula will lookup the value in A2 in the data range named Homeroom\_Teacher\_Charity. Once it finds the value (Homeroom) it will then return the value 2 places over (Teacher), counting the original value as the first place. The 0 means that the data range does not have to be in any particular order and that the value being looked up must be matched exactly.

1. Fill down the formula by highlighting from B2 down to B19 and clicking Edit 🡪 Fill 🡪 Down
2. Complete the formula for the Charity label in C2 using the same processes as above.
3. Fill down the formula by highlighting from C2 down to C19 and clicking Edit 🡪 Fill 🡪 Down

**6 USING SUMIF**

The sumif formula can be used to add up the totals for each of the home groups. It does this by looking for any instance of the Homeroom in the quotation marks in the Fundraising sheet and add up its corresponding Amounts raised.

**The following is the formula for D2**



1. Copy and paste the formula down to D19 **changing** the Homeroom in the quotation marks to be looked up.

# 7 IF STATEMENT

This formula checks the Amount raised by each Homeroom and can be used to indicate the certificates.

1. Click E2 and type in the formula *=IF(D2>=2000,"Gold",IF(D2>=1000,"Silver",IF(D2>=50,"Bronze","")))*

The If(test condition,do this if true,do this if false) formula used above will do the following. It checks whether the total amount raised is over $2000,

if so the Homeroom receives a Gold certificate

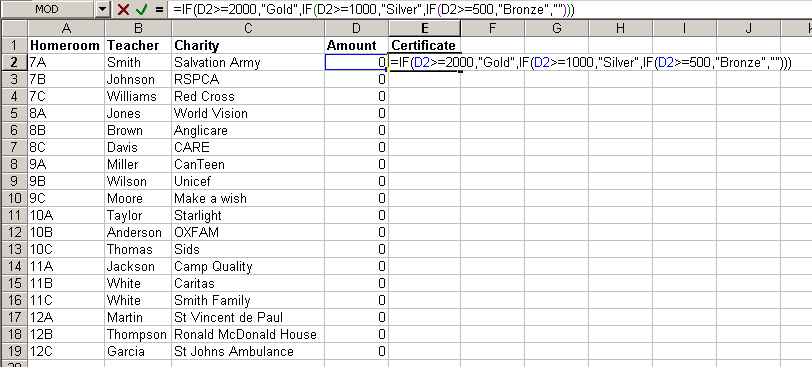
if not then the value is checked if it is over $1000

if so then the Homeroom receives a Silver certificate

if not then the value is checked if it is over $50

if so then the Homeroom receives a Bronze certificate

if not then no certificate is issued



1. Fill 🡪 Down the formula to D19

# 8. CONDITIONAL FORMATTING

Conditional formatting quickly draws attention to important figures. You specify what conditions you want to highlight, and Excel takes it from there.

You can use [conditional formatting (conditional format: A format, such as cell shading or font color, that Excel automatically applies to cells if a specified condition is true.)](javascript:AppendPopup(this,'IDH_xldefConditionalFormat_1_1')) For example, if your policy is to ship in minimum quantities of 50 whenever possible, you can use conditional formatting to automatically show the orders that were at least 50 in green and those that were under 50 in red. The color coding makes it easy to scan the information and see areas that need attention.



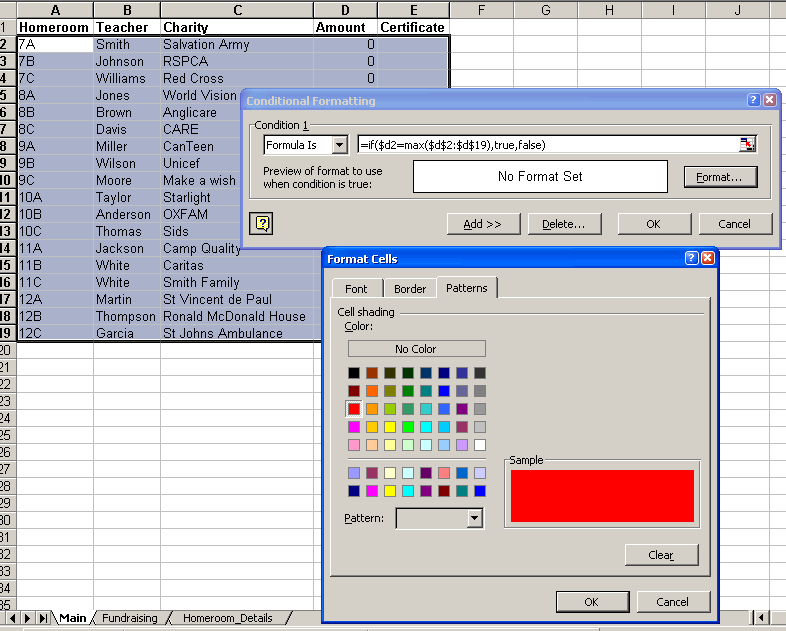
We will use the conditional formatting to indicate the maximum amount of money raised by a homegroup.

In the Homeroom\_totals sheet:

1. Highlight cells A2:E19.
2. Click Format 🡪 Conditional Formatting.
3. Select Formula Is from Condition 1. Enter the formula as shown below. Click Format and then click the Patterns tab. Select a colour. Click OK.

The formula checks if the Amount in column D is equal to the Maximum of all the values in the Amount column. If the maximum Amount is found the entire row is highlighted.

Note: When there are no data entered in the fundraising sheet then all amounts will be 0. This means all rows are the maximum and hence every row is highlighted.

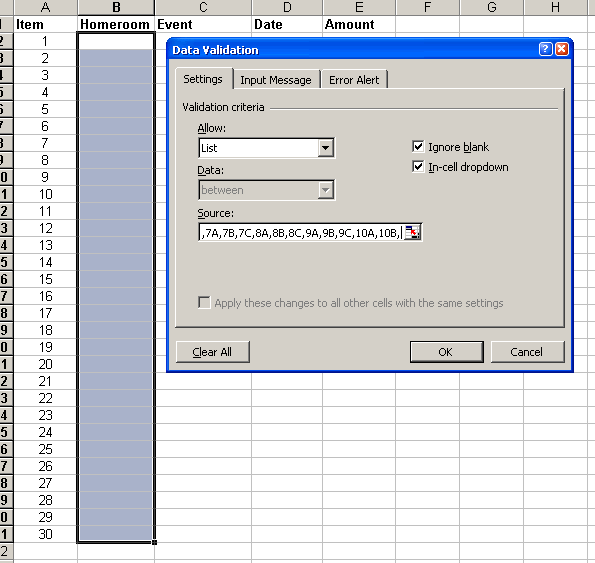


Add another condition, condition 2. This condition is the minimum raised the font is formatted to green.

9 DATA VALIDATION

1. Highlight B2:B31 in the Fundraising sheet.
2. Click Data 🡪 Validation…
3. Change Validation criteria to Allow from a List. Type in the Source: ,7A,7B,7C,8A,8B,8C,9A,9B,9C,10A,10B,10C,11A,11B,11C,12A,12B,12C

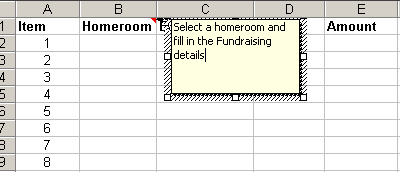
Note: there is a comma at the beginning in order for a blank entry to occur in the Homeroom column.



10 INSERTING COMMENTS

1. Click B1 in the Fundraising sheet. Click Insert 🡪 Comment and type in the comment box as shown below. Click anywhere on the sheet to close the comment box.

Note: After entering the Comment a red triangle appears in the top right corner of the cell with the comment. Placing the mouse over the cell reveals the comment.



11 TESTING

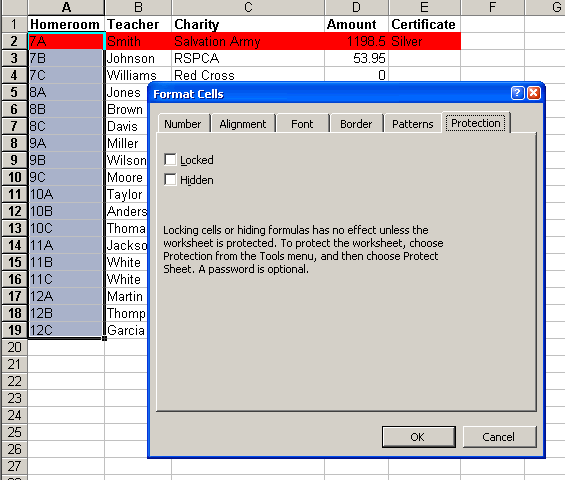
1. Enter the following data to test the formulas in the fundraising sheet.



12 CELL PROTECTION

By default all cells are locked in Excel. Protecting cells is a 2-stage process. You first unlock the cells then you protect the sheet.

1. Highlight A2:A19 in the Main sheet. Click Format 🡪 Cells…
2. Click the Protection tab and unselect Locked.
3. Select Tools🡪 Protection 🡪 Protect Sheet… Click OK.



Note: It is a good idea to thoroughly test the spreadsheet before protecting parts of the spreadsheet. Ideally you would leave the formulas locked and unlock the data entry areas of the spreadsheet.

**13 Certificates Required:**

On the homeroom totals sheet complete a countif formula for the number of certificates required for:

Gold

Silver

Bronze

**14 Create a chart:**

Create a totals chart for each form and for amount raised for each charity.

**15 Certificate\_template sheet.**

We are to use excel to create a certificate template sheet for the home groups.

Go to your certificate template sheet and format a page with similar data to the following:

Point Pleasant High School

Community Services Project 2009

Congratulations (this will be a drop down box of the form)

On Raising (this will be a lookup amount)

For the particular Charity, (this will be a lookup)

Well done on this tremendous effort

Signed by the Principal

**16 Macros**

### Macros: Automating tasks you perform frequently

If you perform a task repeatedly in Microsoft Excel, you can automate the task with a macro. A macro is a series of commands and functions that are stored in a Visual Basic module and can be run whenever you need to perform the task. When you record a macro, Excel stores information about each step you take as you perform a series of commands. You then run the macro to repeat, or "play back", the commands.

**Record a macro to do a task in one step**

Before you record or write a macro, plan the steps and commands you want the macro to perform. If you make a mistake when you record the macro, corrections you make are also recorded. When you record macros, Visual Basic stores each macro in a new module attached to a workbook.

# How to record a NEW macro

# TOOLS, MACRO, RECORD NEW MACRO

* Name the macro (& if you wish, allocate a CTRL key shortcut to access the macro via the keyboard), OK
* Carefully execute the steps you would like to record
* When you are finished, click the STOP RECORDING button on the macro icon

**In the Point Pleasant Social Service Program we want to create some macros.**

A Welcome Sheet with links to each of the sheets. The Welcome sheet will contain the links to the other sheets which will have links back to the welcome sheet.

Attractively create the following text on your Welcome Sheet.

Welcome to Point Pleasant Social Service 2008 Charity Fund Raising Sheet; use colors to highlight.

This spreadsheet lists how much money each Year group has raised and which charity the money is to be donated to.

1. Following the above instructions record macros which will link to the other sheets.
2. Firstly, go to the Main Sheet and create a Welcome Macro.
3. A button will need to be created for each of the Macros. Follow the following steps:
4. In the VIEW menu, click on TOOLBARS and then select FORMS. The Form toolbar will appear on your screen.
5. Find the BUTTON TOOL.
6. Click on the Button Tool and draw a small rectangle.
7. Select the macro that the button will represent, Welcome
8. Highlight the text in the button and type in Welcome
9. Drag the button to an appropriate place on your sheet.
10. Try clicking on the Welcome button and it should take you to the Welcome sheet.
11. Repeat for the remaining macros created.
12. Ensure that the buttons are located in an easy to use position.